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1 Challenges and opportunities in broadband and wireless communication designs

Jan M. Rabaey, Miodrag Potkonjak, Farinaz Koushanfar, Suet Fei Li, Tim Tuan

November 2000 ICCAD '00: Proceedings of the 2000 IEEE/ACM international conference on Computer-aided design

Publisher: IEEE Press

Full text available: pdf(295.17 KB)

 Additional Information: [full citation](#), [appendices and supplements](#), [abstract](#),
[references](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 9, Downloads (12 Months): 48, Citation Count: 3

Communication designs form the fastest growing segment of the semiconductor market. Both network processors and wireless chipsets have been attracting a great deal of research attention, financial resources and design efforts. However, further progress ...

2 Dual-mode real-time MAC protocol for wireless sensor networks: a validation/simulation approach

Thomas Watteyne, Isabelle Augé-Blum, Stéphane Ubéda

May 2006 InterSense '06: Proceedings of the first international conference on Integrated internet ad hoc and sensor networks

Publisher: ACM

Full text available: pdf(272.84 KB)

 Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 8, Downloads (12 Months): 202, Citation Count: 0

Several wireless sensor network applications are currently appearing in various domains. Their goal is often to monitor a geographical area. When a sensor detects a monitored event, it informs a sink node using alarm messages. The area surveillance application ...

3 Detailed Simulation of Large-Scale Wireless Networks

Michele Bracuto, Gabriele D'Angelo

October 2007 DS-RT '07: Proceedings of the 11th IEEE International Symposium on Distributed Simulation and Real-Time Applications

Publisher: IEEE Computer Society

Full text available: pdf(275.17 KB)

 Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 8, Downloads (12 Months): 11, Citation Count: 0


In this paper, we present WiFra, a new framework for the detailed simulation of very large-scale wireless networks. WiFra is based on the parallel and distributed simulation approach and provides high scalability in terms of size of simulated networks ...

4 [Topology management for improving routing and network performances in mobile ad hoc networks](#)

Navid Nikaein, Christian Bonnet

December 2004 Mobile Networks and Applications, Volume 9 Issue 6

Publisher: Kluwer Academic Publishers

Full text available:  pdf(1.03 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 12, Downloads (12 Months): 101, Citation Count: 1

A distributed topology management algorithm based on the construction of a forest from the topology of the network is proposed. In this algorithm, each tree of the forest forms a zone, and each zone is maintained proactively. As a result, the network ...

Keywords: architecture, mobile ad hoc networks, network topology, performance evaluation, simulation, topology management

5 [Troubleshooting multihop wireless networks](#)



Lili Qiu, Paramvir Bahl, Ananth Rao, Lidong Zhou

June 2005 SIGMETRICS '05: Proceedings of the 2005 ACM SIGMETRICS international conference on Measurement and modeling of computer systems

Publisher: ACM

Full text available:  pdf(52.96 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 12, Downloads (12 Months): 45, Citation Count: 2

Effective network troubleshooting is critical for maintaining efficient and reliable network operation. Troubleshooting is especially challenging in multihop wireless networks because the behavior of such networks depends on complicated interactions ...

Keywords: multihop wireless networks, network diagnosis, network management, simulation

6 [The Distributed Open Network Emulator: Using Relativistic Time for Distributed Scalable Simulation](#)

Craig Bergstrom, Srinidhi Varadarajan, Godmar Back

May 2006 PADS '06: Proceedings of the 20th Workshop on Principles of Advanced and Distributed Simulation

Publisher: IEEE Computer Society

Full text available:  pdf(224.98 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 1, Downloads (12 Months): 45, Citation Count: 0


In this paper, we present the design and implementation of The Distributed Open Network Emulator (dONE), a scalable hybrid network emulation/simulation environment. It has several novel contributions. First, a new model of time called relativistic time ...

7 [Dynamic adaptation policies to improve quality of service of real-time multimedia applications in IEEE 802.11e WLAN networks](#)

Naomi Ramos, Debashis Panigrahi, Sujit Dey

August 2007 Wireless Networks, Volume 13 Issue 4

Publisher: Kluwer Academic Publishers

Full text available:  pdf(5.10 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 22, Downloads (12 Months): 341, Citation Count: 0

With the increased popularity of wireless broad-band networks and the growing demand for multimedia applications, such as streaming video and teleconferencing, there is a need to support diverse multimedia services over the wireless medium. In order ...

Keywords: IEEE 802.11e, quality of service, service level agreements, video streaming, wireless LAN


8 [Impact of radio propagation models in vehicular ad hoc networks simulations](#)



Dominique Dhoutaut, Anthony Régis, François Spies

September 2006 VANET '06: Proceedings of the 3rd international workshop on Vehicular ad hoc networks

Publisher: ACM

Full text available:  pdf(3.85 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 31, Downloads (12 Months): 312, Citation Count: 0

Vehicular ad hoc networks use new protocols to enable security, services and other inventive applications to be run onboard many types of vehicles. In their design phase, those protocols and applications need to be extensively simulated but most of the ...

Keywords: ad hoc networks, radio propagation model, simulation


9 [Troubleshooting wireless mesh networks](#)



Lili Qiu, Paramvir Bahl, Ananth Rao, Lidong Zhou

October 2006 ACM SIGCOMM Computer Communication Review, Volume 36 Issue 5

Publisher: ACM

Full text available:  pdf(352.47 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 16, Downloads (12 Months): 162, Citation Count: 0

Effective network troubleshooting is critical for maintaining efficient and reliable network operation. Troubleshooting is especially challenging in multi-hop wireless networks because the behavior of such networks depends on complicated interactions ...

Keywords: fault diagnosis, mesh networks, simulation


10 [A controlled-access scheduling mechanism for QoS provisioning in IEEE 802.11e wireless LANs](#)



Yaser Pourmohammadi Fallah, Hussein Alnuweiri

October 2005 Q2SWinet '05: Proceedings of the 1st ACM international workshop on Quality of service & security in wireless and mobile networks

Publisher: ACM

Full text available:  pdf(274.24 KB)


Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 20, Downloads (12 Months): 224, Citation Count: 2

Wireless Local Area Networks (WLAN) are being deployed at a rapid pace and in different environments. As a result, the demand for supporting a diverse range of applications over wireless access networks is becoming increasingly important. In particular, ...

Keywords: 802.11e, QoS, WFQ, multimedia over WLAN, virtual packet scheduling, wireless

11 [Video quality estimation in wireless IP networks: Algorithms and applications](#)

 Fulvio Babich, Marco D'orlando, Francesca Vatta
January 2008 ACM Transactions on Multimedia Computing, Communications, and Applications (TOMCCAP). Volume 4 Issue 1

Publisher: ACM


Full text available:  [pdf\(890.43 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 74, Downloads (12 Months): 98, Citation Count: 0

This article proposes three methods to estimate the distortion deriving from packet losses in wireless video communication. The proposed methods take into account the short-term properties of the encoded video sequences. A suitable set of functions is ...

Keyw ords: Distortion estimation, H.264, error-concealment, error-resilience, packet loss rate, real time video, wireless networks

12 [A federated approach to distributed network simulation](#)

 George F. Riley, Mostafa H. Ammar, Richard M. Fujimoto, Alfred Park, Kalyan Perumalla, Donghua Xu
April 2004 ACM Transactions on Modeling and Computer Simulation (TOMACS). Volume 14 Issue 2

Publisher: ACM


Full text available:  [pdf\(974.84 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 8, Downloads (12 Months): 91, Citation Count: 6

We describe an approach and our experiences in applying federated simulation techniques to create large-scale parallel simulations of computer networks. Using the federated approach, the topology and the protocol stack of the simulated network is partitioned ...

Keyw ords: Simulation, distributed simulation, networks

13 [Mitigating attacks on open functionality in SMS-capable cellular networks](#)

 Patrick Traynor, William Enck, Patrick McDaniel, Thomas La Porta
September 2006 MobiCom '06: Proceedings of the 12th annual international conference on Mobile computing and networking

Publisher: ACM


Full text available:  [pdf\(346.27 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 15, Downloads (12 Months): 268, Citation Count: 2

The transformation of telecommunications networks from homogeneous closed systems providing only voice services to Internet-connected open networks that provide voice and data services presents significant security challenges. For example, recent research ...

Keyw ords: denial-of-service, open-functionality, sms, telecommunications

14 [A survey of research and practices of Network-on-chip](#)

 Tobias Bjerregaard, Shankar Mahadevan
June 2006 ACM Computing Surveys (CSUR). Volume 38 Issue 1

Publisher: ACM

Full text available:  [pdf\(1.41 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 121, Downloads (12 Months): 1712, Citation Count: 4

The scaling of microchip technologies has enabled large scale systems-on-chip (SoC). Network-on-chip (NoC) research addresses global communication in SoC, involving (i) a move from computation-centric to communication-centric design and (ii) the implementation ...

Keywords: Chip-area networks, GALS, GSI design, NoC, OCP, SoC, ULSI design, communication abstractions, communication-centric design, interconnects, network-on-chip, on-chip communication, sockets, system-on-chip

15 Network simulation enhancing network management in real-time



Gary Warren, Ronald Nolte, Ken Funk, Brian Merrell

April 2004 ACM Transactions on Modeling and Computer Simulation (TOMACS), Volume 14
Issue 2

Publisher: ACM

Full text available: pdf(365.32 KB) **Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 20, Downloads (12 Months): 144, Citation Count: 1

This research investigates the application of network simulation to enhance network management in real-time. Its focus is on ad hoc wireless networks as needed for future public safety emergency response, homeland security, and future combat system networks ...

Keywords: Communications network simulation, quality of service, user satisfaction metrics

16 Experiences parallelizing a commercial network simulator

Hao Wu, Richard M. Fujimoto, George Riley

December 2001 WSC '01: Proceedings of the 33nd conference on Winter simulation

Publisher: IEEE Computer Society

Full text available: pdf(240.20 KB) **Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 1, Downloads (12 Months): 31, Citation Count: 8

Most current approaches of parallel simulation focus on building new parallel simulation engines that require the development of new models and software. An alternate, emerging approach is to extend sequential simulators to execute on parallel computers. ...

17 Scalable RTI-Based Parallel Simulation of Networks

Kalyan S. Perumalla, Alfred Park, Richard M. Fujimoto, George F. Riley

June 2003 PADS '03: Proceedings of the seventeenth workshop on Parallel and distributed simulation

Publisher: IEEE Computer Society

Full text available: pdf(195.24 KB) [Publisher Site](#) **Additional Information:** [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 0, Downloads (12 Months): 33, Citation Count: 7

Federated simulation interfaces such as the High Level Architecture (HLA) were designed for interoperability, and as such are not traditionally associated with high performance computing. In this paper, we present results of a case study examining the use ...

18 Repeatable and realistic wireless experimentation through physical emulation

Glenn Judd, Peter Steenkiste



January 2004 ACM SIGCOMM Computer Communication Review, Volume 34 Issue 1

Publisher: ACM

Full text available: pdf(662.64 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 36, Citation Count: 1

In wireless networking research, there has long existed a fundamental tension between experimental realism on one hand, and control and repeatability on the other hand. Hardware-based experimentation provides realism, but is tightly coupled to the physical ...

19 [Experience with an implementation of the *Idle Sense* wireless access method](#)



Yan Grunenberger, Martin Heusse, Franck Rousseau, Andrzej Duda

December 2007 CoNEXT '07: Proceedings of the 2007 ACM CoNEXT conference

Publisher: ACM

Full text available: pdf(2.29 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 0, Downloads (12 Months): 0, Citation Count: 0

An overwhelming part of research work on wireless networks validates new concepts or protocols with simulation or analytical modeling. Unlike this approach, we present our experience with implementing the *Idle Sense* access method on programmable ...

Keywords: 802.11, access methods, fairness, implementation, wireless LANs

20 [Optimizing parameters of a mobile ad hoc network protocol with a genetic algorithm](#)



David Montana, Jason Redi

June 2005 GECCO '05: Proceedings of the 2005 conference on Genetic and evolutionary computation

Publisher: ACM

Full text available: pdf(408.51 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 6, Downloads (12 Months): 138, Citation Count: 0

Mobile ad hoc networks are typically designed and evaluated in *generic* simulation environments. However the real conditions in which these networks are deployed can be quite different in terms of RF attenuation, topology, and traffic load. Furthermore, ...

Keywords: ad hoc networks, genetic algorithms, mobile networks, parameter optimization

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